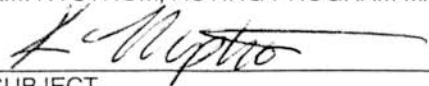


PROGRAM DIRECTIVE

TR-0011 (New 9/15/1999)

TRAFFIC OPERATIONS PROGRAM DIRECTIVE		NUMBER 99-02	Page 1 of 3
KIM NYSTROM, ACTING PROGRAM MANAGER (Signature) 		DATE ISSUED 11-15-99	EFFECTIVE DATE 12-01-99
SUBJECT OVERHEAD GUIDE SIGN ILLUMINATION POLICY		DISTRIBUTION <input checked="" type="checkbox"/> All District Directors <input checked="" type="checkbox"/> All District Division Chiefs - Traffic Operations <input checked="" type="checkbox"/> All District Division Chiefs - Maintenance <input checked="" type="checkbox"/> All District Division Chiefs - Construction <input checked="" type="checkbox"/> All District Division Chiefs - Project Development <input checked="" type="checkbox"/> All District Division Chiefs - Planning <input checked="" type="checkbox"/> Service Center Directors <input checked="" type="checkbox"/> All Headquarters Program Managers	
DOES THIS DIRECTIVE SUPERSEDE ANOTHER DOCUMENT? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		IF YES, DESCRIBE Memorandum, July 5, 1990, C. D. Bartell, " 'Lights Out' on Non-action Advance Guide Signs"	
WILL THIS DIRECTIVE BE INCORPORATED IN THE TRAFFIC MANUAL? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		IF YES, DESCRIBE 4-04.22 Illumination and Retroreflectorization of Overhead Signs	

DIRECTIVE

All new overhead guide signs shall show the same general shape and color at night as during the day. Backgrounds, legends and borders shall be retroreflective.

All existing overhead guide signs should show the same general shape and color at night as during the day.

Fixed-lighting should be used to illuminate signs unless retroreflective luminance from headlights provides effective nighttime legibility. The type of fixed-lighting chosen should provide effective and reasonably uniform illumination of the sign face and message.

In conjunction with the requirement for retroreflective backgrounds, the Overhead Guide Sign Illumination Policy shall apply to all existing and new overhead guide signs. In all applications of the Policy, engineering judgement must be exercised. The purpose of the Policy is to provide for uniform application of signs statewide. The intent is to make signs conspicuous (target value) and legible to motorists. The Policy is consistent with federal requirements.

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IMPLEMENTATION

A. Existing Overhead Signs

- 1) Currently lighted signs with opaque backgrounds should remain lighted.
- 2) Currently unlighted opaque signs may be lighted. Retrofit-walkways for fixed-lighting systems should be checked for proper clearance to the roadway.
- 3) Signs with opaque backgrounds shall be replaced with new signs with retroreflective backgrounds, legends and borders when the old signs have reached the end of their useful life or are replaced for other reasons.
- 4) Fixed-lighting should be used to illuminate signs with retroreflective backgrounds, legends and borders unless retroreflective luminance from headlights provides effective nighttime legibility.

B. New Overhead Signs

All Installations:

- 1) Signs shall have retroreflective backgrounds, legends and borders.
- 2) Fixed-lighting should be used to illuminate signs unless retroreflective luminance from headlights provides effective nighttime legibility.
- 3) Basic components for fixed-lighting systems shall be provided even if lights are not planned initially. Signs should be designed and mounted as if lights were installed. Some new vehicles have headlights that produce minimal light above horizontal. It may be necessary to provide fixed-lighting for the sign at some future date.

C. Fixed-lighting Systems

Energy conservation systems should be considered for fixed-lighting.

D. Engineering Considerations

The following criteria should be considered in determining which signs should be lighted:

1. Signs skewed or otherwise positioned relative to traffic so as to render retroreflective luminance from headlights ineffective;
 2. Signs that for some other reason are not legible when illuminated by vehicle headlights;
 3. Signs adjacent to other signs requiring or having fixed-lighting;
 4. Signs in advance of ramps in urban areas with heavy traffic during the evening peak period.
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E. Retroreflective Sheeting

Various combinations of background, legend and border may be used as indicated below:

1. Overhead Guide Signs with Green Backgrounds: The basic grade of retroreflective-sheeting for background shall be either ASTM Type III or ASTM Type IV. Legend and border shall consist of ASTM Type III, or ASTM Type IV, or (approved) diamond grade cutout retroreflective-sheeting.
2. Overhead Guide Signs with Blue and Brown Backgrounds (and colors other than green): The basic grade of retroreflective-sheeting for background shall be ASTM Type II retroreflective-sheeting. The legend and border shall consist of ASTM Type II, or ASTM Type III, or ASTM Type IV, or (approved) diamond grade cutout retroreflective-sheeting.

F. Meanings of "Shall," "Should," and "May"

To clarify the meanings intended in this Memorandum by the use of these words, the following definitions apply:

1. SHALL – a mandatory condition. Where certain requirements are described with "shall," it is mandatory that the requirements be met.
2. SHOULD – an advisory condition. Where the word "should" is used, it is advisable that the requirements be met, but not mandatory.
3. MAY – a permissive condition. No requirement for design or application is intended.

BACKGROUND

This directive supersedes the memorandum dated July 5, 1990, by Mr. C. D. Bartell, Chief, Division of Traffic Operations; entitled, " 'Lights Out' on Non-action Advance Guide Signs," which was generally intended to reduce energy costs by not lighting some non-action advance guide signs.

Retroreflective backgrounds for guide signs were instituted by Mr. Hamed Benouar, Program Manager for Traffic Operations, and Mr. Randell H. Iwasaki, Program Manager for Maintenance on March 16, 1999. The memorandum is entitled, "Guide Sign Policy."